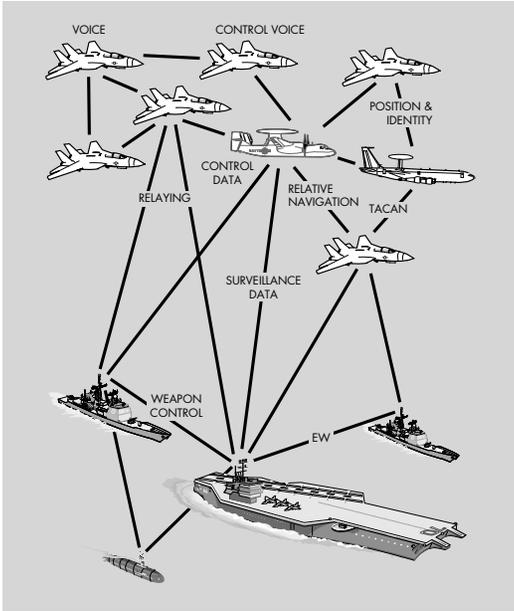


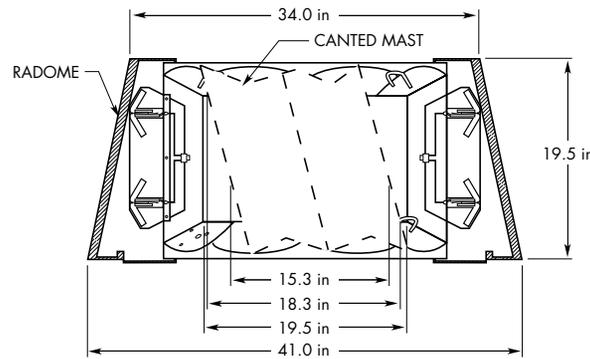
The Joint Tactical Information Distribution System (JTIDS), Link-16, AS-4127A/URC antenna was developed by SSC San Diego RF Devices and Antennas Branch, Code 2738, San Diego, CA. The antenna is used as a shipboard Link-16 transmit/receive antenna where Link-16 system requirements must be met with or without supporting the Tactical Air Navigation (TACAN) antenna.



Link-16 Antenna Operating Environment

Link-16 provides a secure, jam-resistant digital communications link for data and voice, supporting command and control, navigation, relative positioning, and identification. Link-16 is a time-division multiple-access (TDMA) system that operates over line-of-sight ranges up to 300 nautical miles, with automatic relay extension beyond. Within the Link-16 mission profile, the Link-16 shipboard antenna enables tactical communications between properly equipped ships (designated CVs, CVNs, LHAs, LHDs, CGs, and DDGs) and aircraft (E-2C and F-14D) assigned to the battle group.

The AS-4127A/URC (Tx/Rx) is used in conjunction with the AS-4400/URC shipboard receive-only antenna. The AS-4127A/URC is a passive, in-phase array of 16 dipole pairs equally spaced in front of a 27.5-inch-diameter cylindrical reflector. The cylinder is split in two halves, each containing eight elements and the associated power distribution. This allows the antenna to be mounted around vertical masts up to 15.5 inches in diameter and smaller diameter canted rectangular masts.

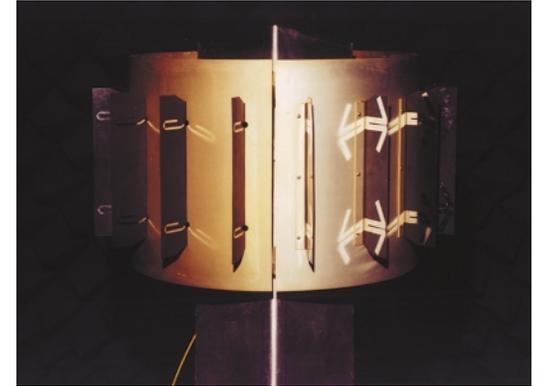


Cutaway View of Link-16 Antenna

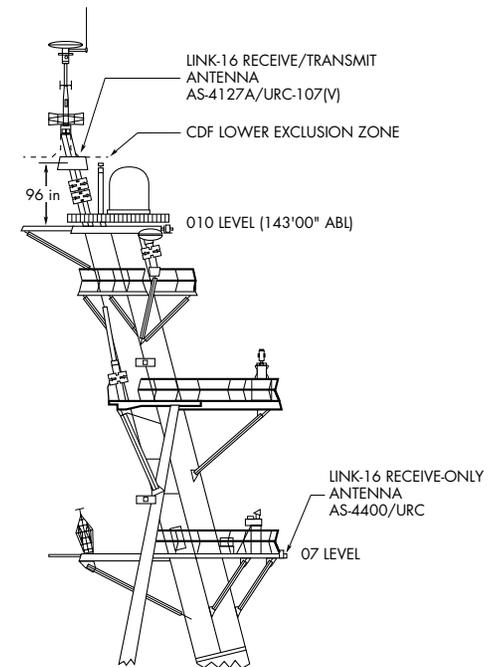
ANTENNA CHARACTERISTICS

- Operating frequency band: 960 MHz to 1215 MHz
- Transmit power: 1200-watt peak and 140-watt average
- Typical gain: 3.0 dB
- Half-power elevation beam width: 30 degrees nominal at the horizon
- Omnidirectional azimuth pattern
- VSWR: 2.1:1 maximum
- Weight: 100 pounds

The AS-4127A/URC antenna operates as an omnidirectional antenna over the entire Link-16 frequency band (960 MHz to 1215 MHz) without electrical or mechanical tuning. It has also been fully military-qualified to shipboard environmental conditions (MIL-STD-2036).



Circular In-Phase Array



Typical Link-16 Antenna Installation on Canted Mast of DDG 72 Destroyer